

**EXHIBITS 3–6 TO DECLARATION OF
AMY WALSH**

EXHIBIT 3

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**Confidential Investment Materials for
Rupert Murdoch
Binder 1/2**

Theranos Confidential and Proprietary

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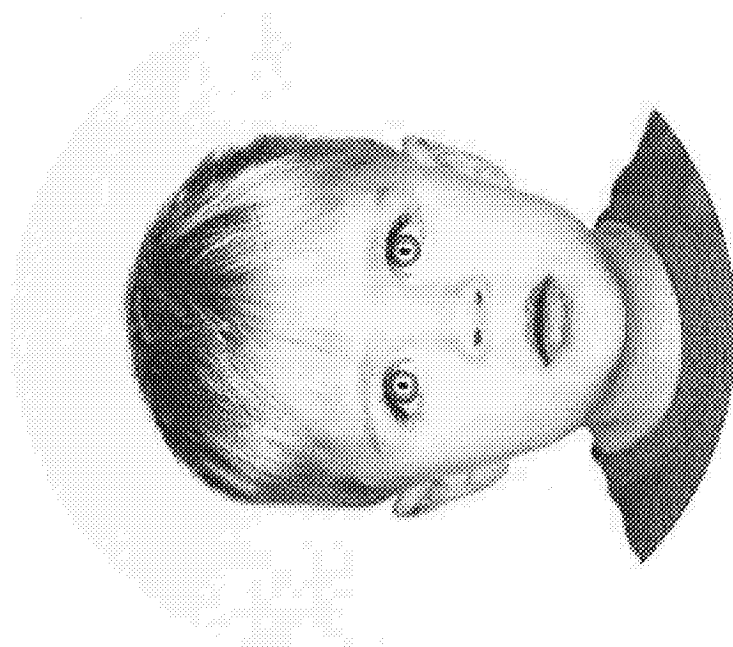
Confidential Overview

This presentation and its contents are Theranos proprietary and confidential.

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goodbye, big bad needle.

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Theranos, Inc.

Headquartered in Palo Alto, California, Theranos is a Silicon Valley-based company founded in 2003.

Theranos' proprietary, patented technology runs comprehensive blood tests from a finger-stick and tests from micro-samples of other matrices, and generates significantly higher integrity data than currently possible.

Theranos is the world's first and only CLIA-certified laboratory running its tests on micro-samples.

Current and past clients include 10 of the top 15 major pharmaceutical companies, midsized bio-pharmas, prominent research institutions, healthcare payors, and U.S. and foreign government health and military organizations.

Our mission is to make actionable health information accessible to everyone at the time it matters.

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Our Board

Elizabeth Holmes: Theranos Chairman, CEO, and Founder

George P. Shultz: Former U.S. Secretary of State, Secretary of Treasury, Secretary of Labor, and President of Bechtel

Gary Roughead: Former United States Admiral and Chief of Naval Operations

William J. Perry: Michael and Barbara Berberian Professor at Stanford University; former U.S. Secretary of Defense

Sam Nunn: Co-chairman and CEO of NTI; former United States Senator and Chairman of the Senate Armed Services Committee and the Permanent Subcommittee on Investigations

Richard Kovacevich: Former CEO of Wells Fargo & Company

James H. Mattis: Retired U.S. Marine Corps general and commander of the United States Central Command

Henry A. Kissinger: Former United States Secretary of State, Assistant to the President of the United States for National Security Affairs, and recipient of the Nobel Peace Prize

William H. Frist: Chairman of the Executive Council of Cressey and Company, former U.S. Senate Majority Leader

William H. Foege: Former Director of CDC, epidemiologist and health innovator behind the successful campaign to eradicate smallpox

Riley P. Bechtel: Chairman of the Board and a Director of Bechtel Group, Inc.

Sunny Balwant: Theranos President and COO

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Theranos is certified as a High Complexity CLIA Laboratory

Waived

Simple, accurate tests without routine oversight

Moderate

Most tests fall in this category; automated testing where the lab must meet standards and surveyed biennially

PPM

Provider performed microscopy; the lab must meet quality standards; no routine oversight

High Complexity

Requires the highest level of training, technique and result interpretation; most stringent standards; labs are surveyed routinely and randomly

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CENTERS FOR MEDICARE & MEDICAID SERVICES CLINICAL LABORATORY IMPROVEMENT AMENDMENTS CERTIFICATE OF COMPLIANCE	
LABORATORY NAME AND ADDRESS	CLIA ID NUMBER
THERANOS INC 1801 S CALIFORNIA AVE PALO ALTO, CA 94304-1111	05D2025714
LABORATORY DIRECTOR	EFFECTIVE DATE
ADAM ROSENDORFF MD DIRECT	01/09/2014
	EXPIRATION DATE
	01/08/2016

Pursuant to Section 555 of the Public Health Services Act (42 U.S.C. 263a) as revised by the Clinical Laboratory Improvement Amendments (CLIA), the above named laboratory located at the address shown herein (and other approved locations) may accept human specimens for the purposes of performing laboratory examinations or procedures.

This certificate shall be valid until the expiration date shown, but is subject to reevaluation, suspension, limitation, or other sanctions for violations of the Act or the regulations promulgated thereunder.

 *Julius A. Yost*
Julius A. Yost, Director
Division of Laboratory Services
Survey and Certification Group
Center for Clinical Standards and Quality

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Theranos Proficiency Testing and Audits

Since 2011 Theranos' CLIA lab has been subjected to regular proficiency testing (testing of blinded samples) by multiple nationally recognized agencies. The lab is also audited and inspected every two years by CLIA and also by the New York Department of Health. Theranos successfully completed these most recent inspections in June '14 and December '13, respectively. Additional representative surveys include:

Agency Survey	Date	Score
API Hematology	11/23/2011	100%
API Chemistry / Immunology / Immunochemistry	8/1/2012	100%
NY Clinical Chemistry	9/10/2012	100%
API Hematology / Coagulation / Body Fluid	11/28/2012	100%
CAP Infectious Disease, Respiratory -A	4/9/2013	100%
API Microbiology	7/9/2013	100%
NY Oncology	1/28/2014	100%
CAP Chlamydia / GC	6/23/2014	100%
CAP Hepatitis Viral Load-B	7/1/2014	100%





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Validation of Theranos Tests

Theranos has been comprehensively validated over the course of the last seven years by ten of the fifteen largest pharmaceutical companies, with hundreds of thousands of assays processed.

After running clinical trials with Theranos instead of the central laboratory, GlaxoSmithKline's Lab Director concluded that "Theranos' lab infrastructure eliminates the need for a lab."

Theranos calibrates and validates its systems to , ,  and  guidelines and standards where accessible.

Excerpts from Johns Hopkins due diligence and technology validation:

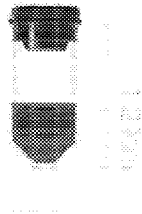
- "The technology is novel and sound. It can accurately run a wide range of routine and special assays."
- "No major weaknesses were identified."



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For the first time,
tests can be done with just a tiny sample,
and at a fraction of the cost

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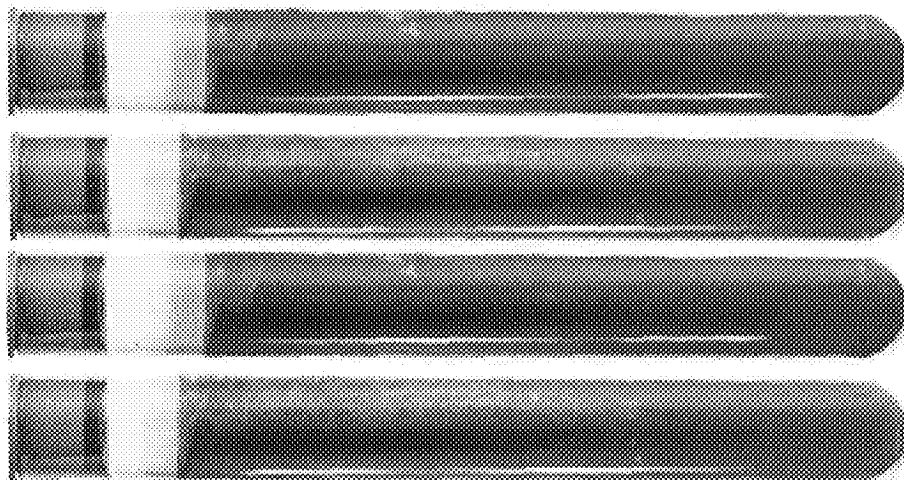
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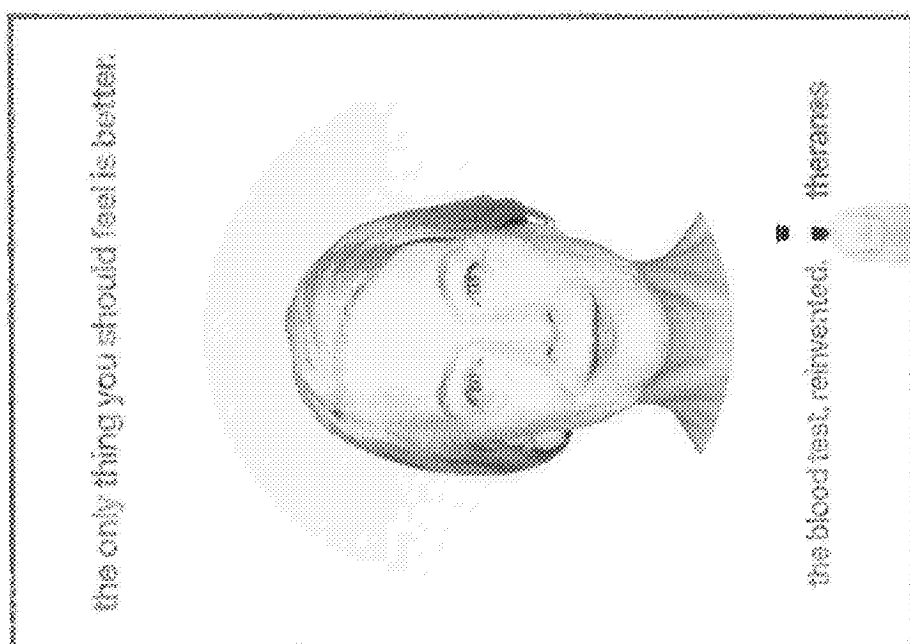


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Overview of Current Laboratory Market

- Decades old business processes - and technology investments around those business processes - with very little motivation to innovate, has created a duopoly of businesses burdened with infrastructure costs and little/no R&D.
- Manual handling of samples at every step of the process yields significant quality and usability issues with current lab results.
- Select contracts between labs and insurance companies have set precedent for higher costs for "pull through" patients.
- Healthcare reform, increasing healthcare costs, and the changing market dynamics make this industry ripe for innovation.

Access to Actionable Health Information at the Time it Matters

Access:

- Unprecedented cost
- Micro-samples
- Geo-access
- Convenience: extended hours of operation
- Speed of results

Actionable Information:

- High Complexity CLIA certified laboratory
- Automation and standardization
- Reflex across test methodologies
- Longitudinal data
- Screenings

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Cost Savings

The full range of tests. A fraction of the costs.

.....
THERANOS'S RATES ARE ALWAYS
50% OR LESS
.....
THAN MEDICARE COVERED RATES

Theranos is committed to making lab testing more accessible to everyone. That means pricing our tests dramatically lower than currently available options.

We can bill all major insurance carriers as well as Medicare and Medicaid.

Uninsured patients are offered the same discounted prices.

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Cost Savings (continued)

- Many of Theranos' initial price points are 70% below Medicare reimbursement amounts for all currently run tests/CPT codes.
- Theranos Systems in physician offices stamp out leakage problems/out-of-network testing at the root of the problem.
- Real-time testing and reflex testing during office visits enable better physician decision making and reduced visits by eliminating test result delays.
- Real-time data in ER & hospitals reduces hospital bed stays and costs.
- The unprecedented lack of variation from system to system yields higher integrity data and longitudinal trending, enabling earlier insight into the onset/progression of disease and reducing unnecessary secondary procedures from results which currently show up as false positive results.
- Earlier insight into disease progression and earlier intervention will reduce ER/hospital visits.

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Exemplary Price comparison

Test	Standard Lab Costs*	Medicare Price	Theranos Price
Comprehensive Respiratory Panel	\$1,222.30	\$1,000.00	\$49.95

Theranos' prices translate into meaningful savings for all payer channels and cash paying members.

Theranos price = 95% discount to Medicare

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Exemplary Price comparison

Test	Standard Lab Costs*	Medicare Price	Theranos Price
Chlamydia/ Gonorrhea	\$200.00	\$95.74	\$29.95

Theranos' prices translate into meaningful savings for all payer channels and cash paying members.

Theranos price = 70% discount to Medicare

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Exemplary Price comparison

Test	Standard Lab Costs*	Medicare Price	Theranos Price
Hepatitis C Genotyping	\$674.00	\$353.88	\$117.96

Theranos' prices translate into meaningful savings for all payer channels and cash paying members.

Theranos price = 67% discount to Medicare

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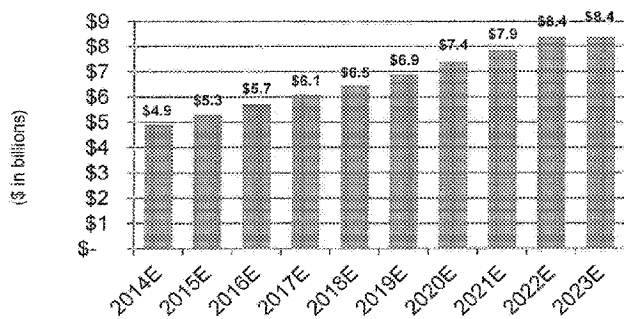
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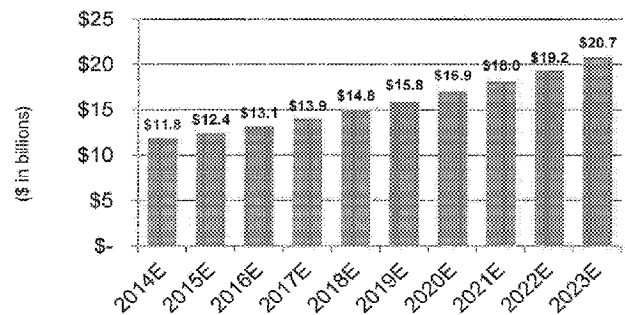
Cost Savings: National Medicaid

Est. Direct Out-of-Pocket Lab Cost Savings for National Medicaid



10-year aggregate savings of
\$67 billion

Est. Cost Savings from Reduced Visits for National Medicaid



10-year aggregate savings of
\$157 billion

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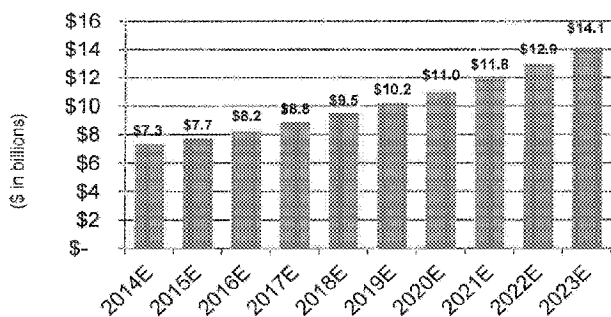
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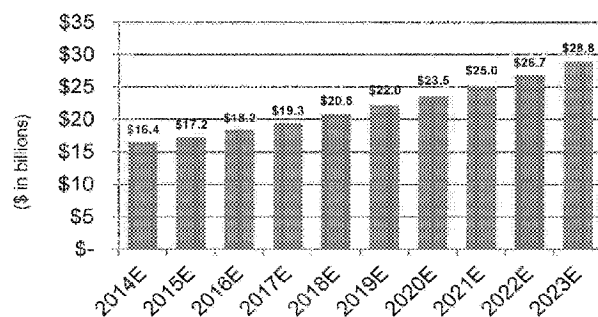
Cost Savings: National Medicare

Est. Direct Out-of-Pocket Lab Cost Savings for National Medicare



10-year aggregate savings of
\$102 billion

Est. Cost Savings from Reduced Visits for National Medicare



10-year aggregate savings of
\$218 billion

Sources: CMS.gov, B2B.org and Theranos estimates.
Spend per visit estimated based on national averages.

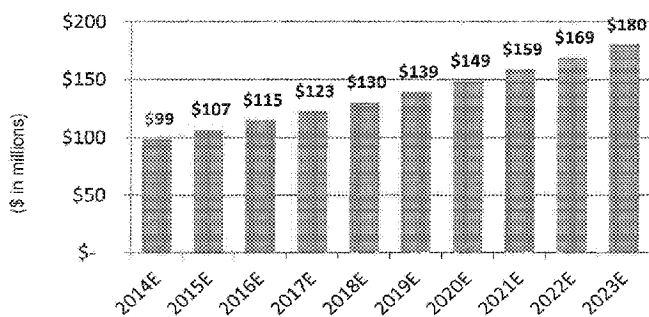
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Cost Savings: Arizona Medicaid

Est. Direct out-of-pocket Lab Cost Savings for Arizona Medicaid

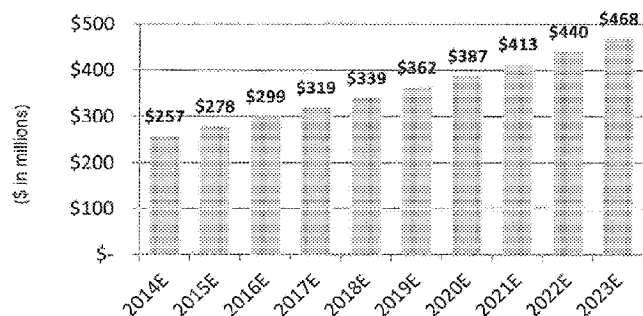


10-year aggregate savings of
\$1.4 billion

Source: CMS.gov, KFF.org and Theranos estimates.
Spend per visit estimated based on national averages.

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Est. Cost Savings from Reduced Visits for Arizona Medicaid



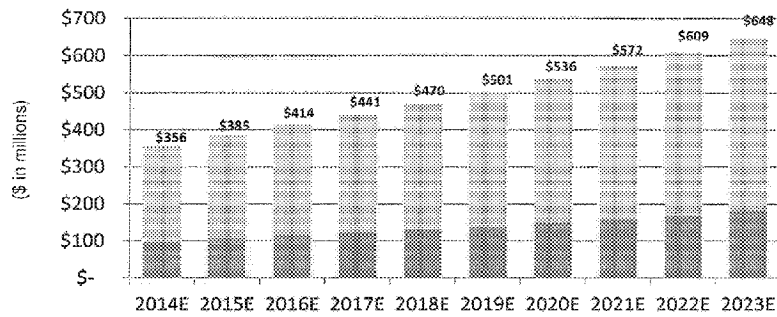
10-year aggregate savings of
\$3.6 billion

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Cost Savings: Arizona Medicaid (cont'd)

Est. Combined impact on
Lab Costs & Reduced Visits for
Arizona Medicaid



10-year aggregate savings of
\$4.9 billion

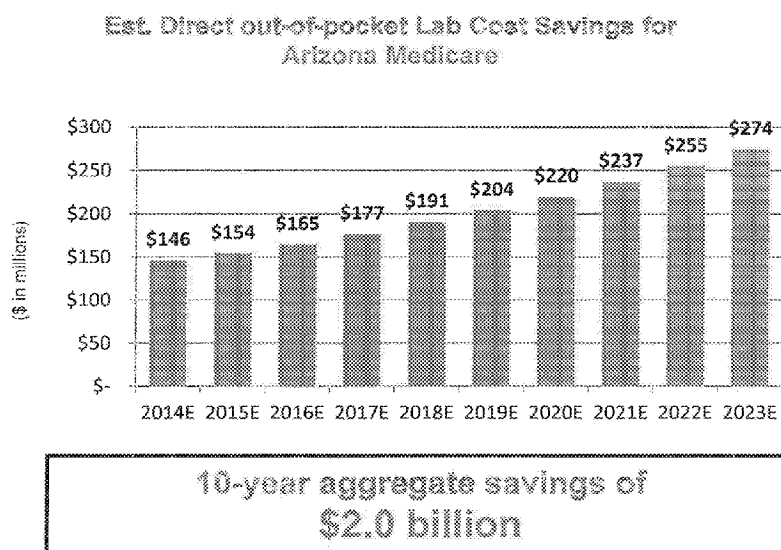
Source: CMS.gov, KFF.org and Theranos estimates.
Spend per visit estimated based on national averages.

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Cost Savings: Arizona Medicare



Source: CMS.gov, KFF.org and Theranos estimates

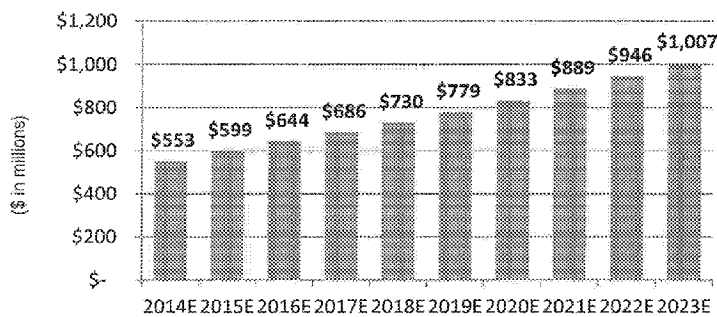
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Cost Savings: California Medi-Cal

Est. Direct out-of-pocket Lab Cost Savings for California Medi-Cal



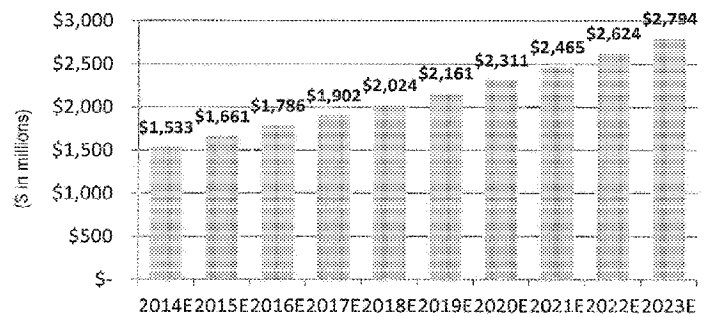
10-year aggregate savings of
\$7.7 billion

Source: CMS.gov, KFF.org and Theranos estimates.
Spend per visit estimated based on national averages.

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Est. Cost Savings from Reduced Visits for California Medi-Cal

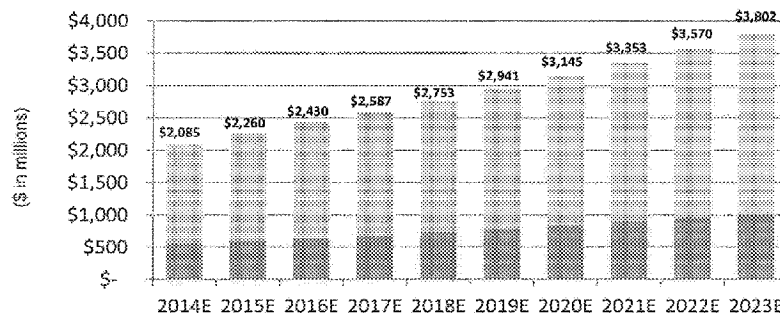


10-year aggregate savings of
\$21.3 billion

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Cost Savings: California Medi-Cal (cont'd)

Est. Combined Impact on Lab Costs & Reduced Visits for
California Medi-Cal



10-year aggregate savings of
\$28.9 billion

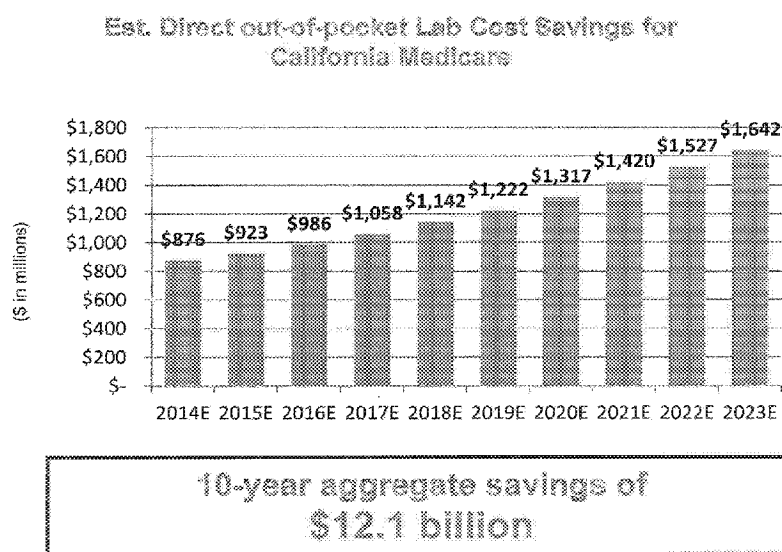
Sources: CMS.gov, KFF.org and Theranos estimates.
Savings per visit estimated based on national averages.

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Cost Savings: California Medicare



Source: CMS.gov, KFF.org and Theranos estimates

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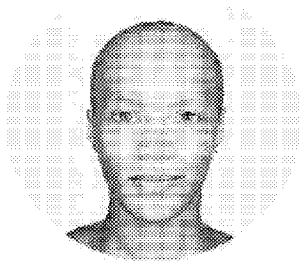
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Specialized for Every Specialty

Theranos is a new standard in lab testing that can help every practice. And we offer even more specialized tools for patients with specific needs.



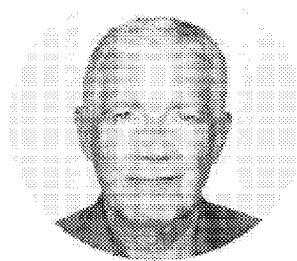
Oncology

With Theranos, patients can test at the necessary frequency with less risk. Our mini-tap is used to lower the risk of anemia and other secondary effects of large-volume draws.



Pediatrics

When you're caring for the future doctors, with a simple blood draw you're the biggest obstacle. But once we start drawing tiny drops, our tests are less traumatic, giving you more smiles and fewer tears.



Geriatrics

With Theranos, you can prevent hospital from patients with ongoing care without the discomfort they go through now. No more searching for veins. No more gentle draws from the knuckle or back of the hand.

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Same Tests, a Whole New Approach

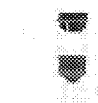
The actionable information you need,
1/1,000 the size of a typical blood draw.



Typical blood draw



1/1,000 the size of a typical blood draw



Microfluidic chip

Theranos runs any test available in central laboratories, and processes all sample types.

All tests match existing reimbursement codes.

Theranos provides the highest level of oversight, automation, and standardization in our pre- and post-analytic processes, ensuring the highest levels of accuracy and precision.

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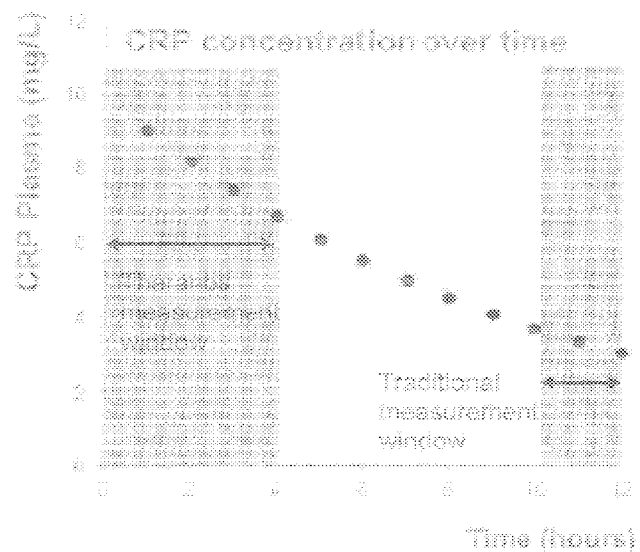
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Better Data from Fresher Samples

Theranos rapidly processes samples from our distributed PSC locations, allowing for analysis of key markers before their analyte decay rates affect result integrity.

Certain analytes decay rapidly in blood/serum, having half-lives of less than 12 hours. CRP for example has a half life of 7 hours.



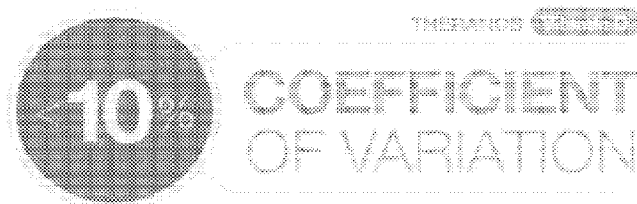
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A New Standard in Quality

The highest levels of accuracy.



By systematically controlling and standardizing our processes, Theranos offers tests with the highest levels of accuracy.

Theranos automates pre- and post-analytic processes, drastically minimizing human processing – the cause of the majority of lab test errors.

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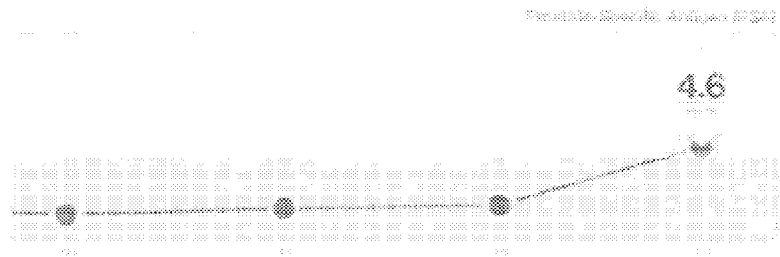
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A New Standard in Quality

More precise trending.



By making it easier to precisely measure your body's information at the needed frequencies, we can help clinicians see small changes in test results as they emerge over time.

Theranos Systems are designed to help monitor chronic disease states, providing accuracy and precision over time through the standardization of our systems.

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New Possibilities in Lab

Routine, Specialty and Esoteric Testing

- Comprehensive laboratory test menu available through Theranos
- Theranos runs any test available in central laboratories
- Theranos can process any sample type
- All tests match existing reimbursement codes
- With CLIA certification, Theranos is a nationally accredited provider

Higher Quality Data

- Variability among traditional labs prevents insight into:
 - Early disease onset, progression, and regression
- The unprecedented lack of variation with Theranos yields:
 - Higher integrity data and longitudinal trending
 - Earlier insight into the onset/progression of disease
 - Reduction in unnecessary secondary procedures from results which currently show up as false positive results

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Faster results. Faster answers.



Theranos' micro-sample analysis is performed at amazing speeds, so we can report results faster than previously possible.

Data reported in high quality and in real-time becomes actionable information for improved decision making.

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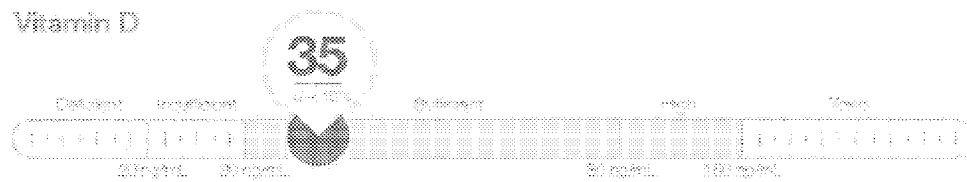
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A Better Way to See Results



Results are conveniently accessed through theranos.md, our secure digital hub that organizes all your results, or accessed through traditional methods.

Results are reported in easy-to-read graphs, allowing for better visualization of test data in a new, informative way.

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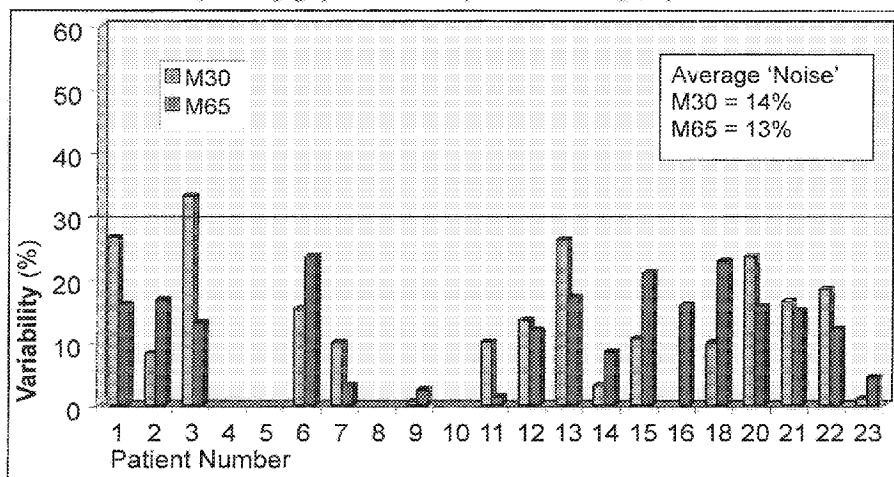
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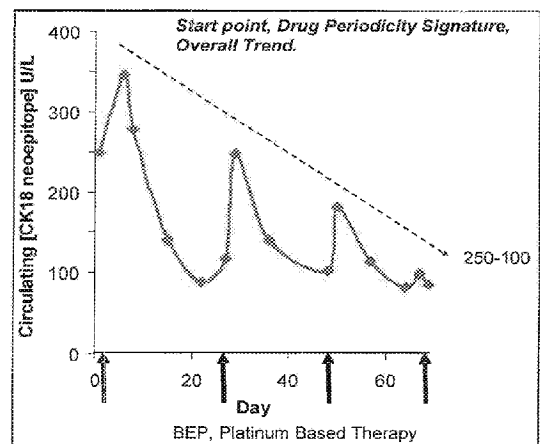
Predictive Insight: Disease Progression

Robust studies have shown that more frequent sampling on a low variability platform allows characterization of trends that cannot be seen when patients come into the clinic for blood draws less frequently and run in traditional labs.

Variability In M30 and M65 Pre-dose Levels
(5-7 day gap between 2 pre-dose samples)



Time series: chemo-sensitive
solid tumor and M30 M65 trends



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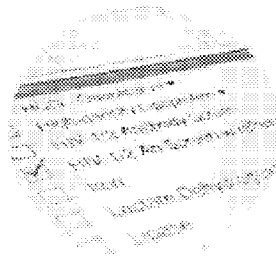
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Comprehensive Testing Across Methodologies

Auto-Reflex Testing



When clinicians order tests with Theranos, they can specify follow-on tests to run automatically on the same sample if certain tests are out of range.

This saves patients another trip to the lab, avoids prophylactic decision-making and unnecessary prescriptions, and helps clinicians properly diagnose conditions sooner than they would be able to with conventional processes.

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An Entirely New Lab Experience

Theranos Information Systems

Theranos Information Systems facilitate real-time eligibility, authorization, authentication, information transmission, and billing

All data is transmitted to physicians through a secure customized portal, secure fax, and/or integration with EMR/LIS systems

Data visualization tools and front and back-end decision support applications support actionable interpretation of results

Providers and partners will have a customized portal for real-time access to data, analyses, and clinical decision support based on dynamic, individual patient data



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Theranos Laboratory Market

- The US laboratory market is a \$180 billion/year market and growing.
- On average, every American runs blood tests >3 times a year.
- The current largest traditional retail laboratory, which only operates in a small percentage of the total lab testing market, processes more than 151 million test requisitions.
- Replaces old infrastructure with new.
 - Infectious and chronic disease infrastructure.
- Increases traffic to retail stores and pharmacies.

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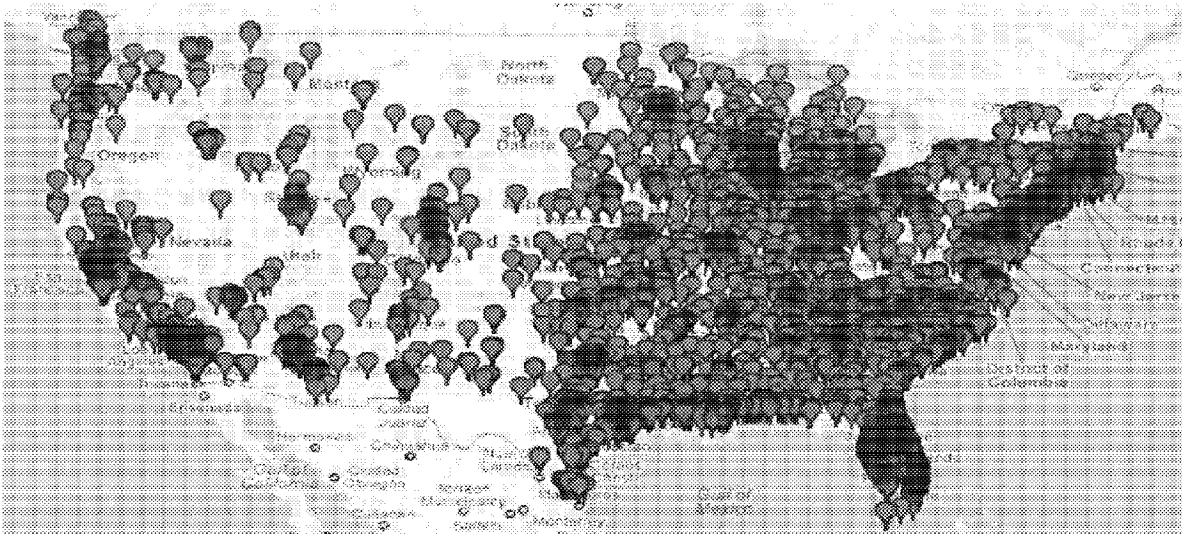
Theranos Infrastructure

National retail footprint, hospital, and health plan partnerships throughout the United States for an unprecedented infrastructure which exceeds that of any retail laboratory in today's market.

Medicaid partnerships with states across the country regarding the exceptional impact on healthcare delivery and cost reduction.

Medicare partnership at the federal level focusing on improvements in delivery of services and Medicare cost reduction.

Theranos' Footprint Upon National Deployment: Theranos Wellness Centers in Walgreens



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Theranos Wellness Centers

Walgreens & other retail pharmacies

Theranos' Footprint at retail:

Theranos Wellness Centers are located within a smaller radius from the patient, and open longer hours than currently available

Theranos has more Wellness Centers than any lab provider in CA

Convenience is offered at an unprecedented value

	1 mile	3 miles	5 miles
theranos	> 95%		
Current largest independent laboratory	9%	45%	69%
Current 2 nd largest independent laboratory	7%	35%	56%

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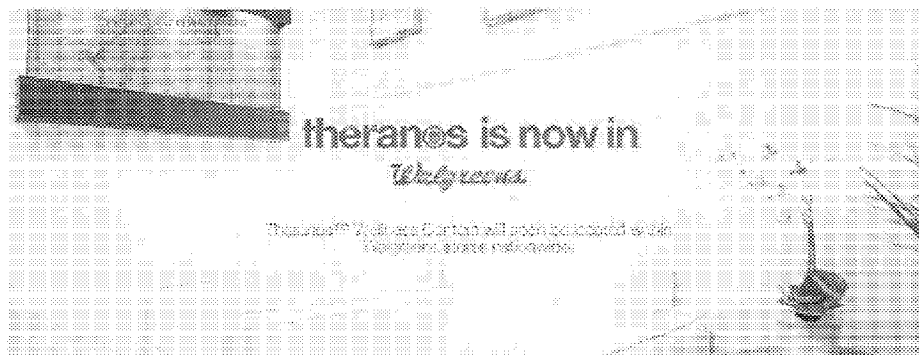
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Theranos Wellness Centers



Theranos is introducing groundbreaking new spaces that transform the way patients and clinicians think about lab tests.

Theranos Wellness Centers are designed to make the patient experience as easy and comfortable as possible.

By giving people an easier way to get their lab testing done, they are more likely to be compliant with clinician lab orders.

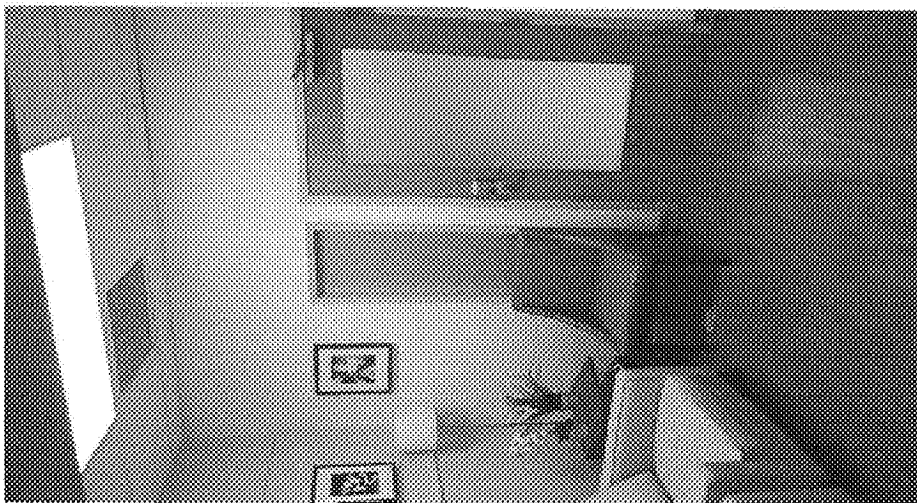
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Theranos Wellness Centers



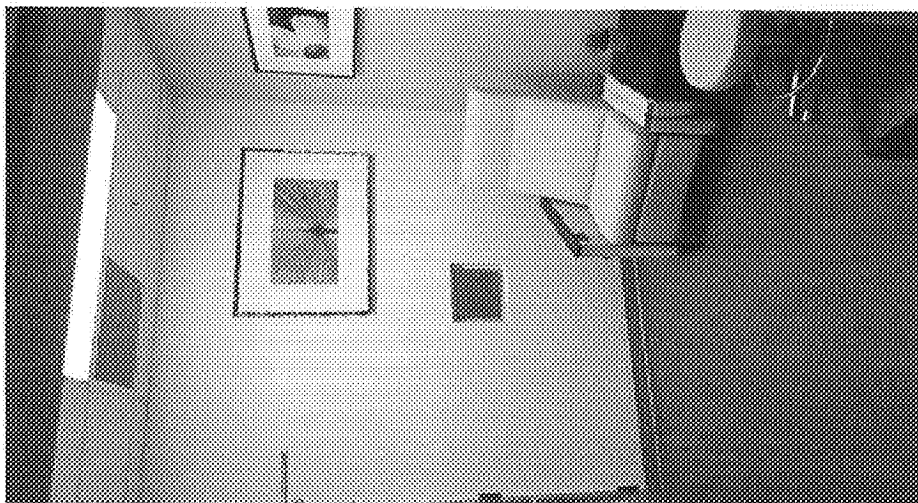
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Theranos Wellness Centers



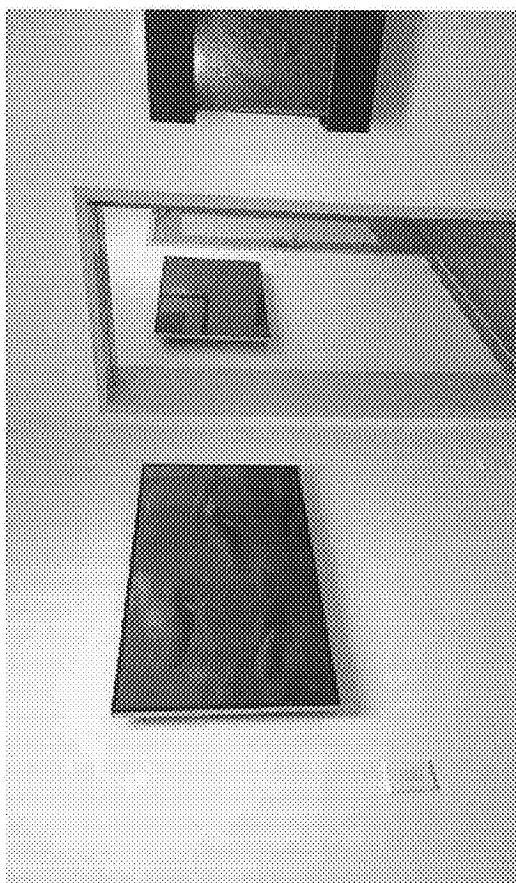
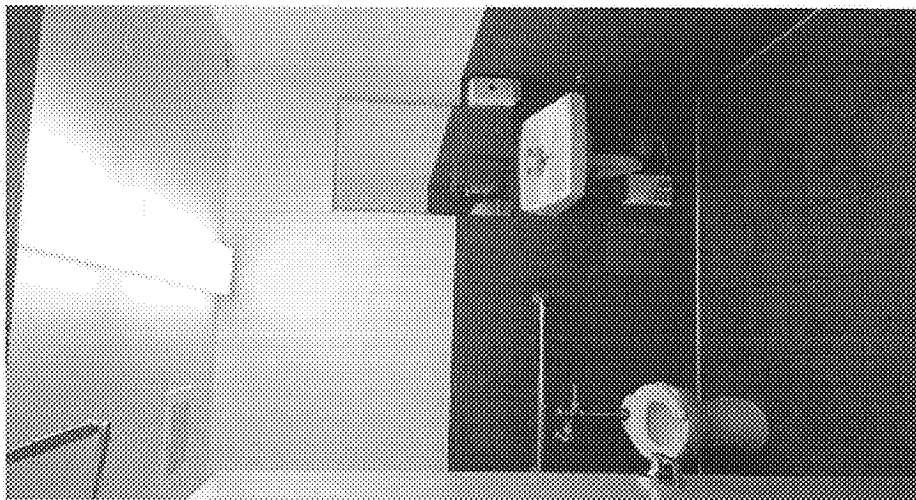
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Theranos Wellness Centers



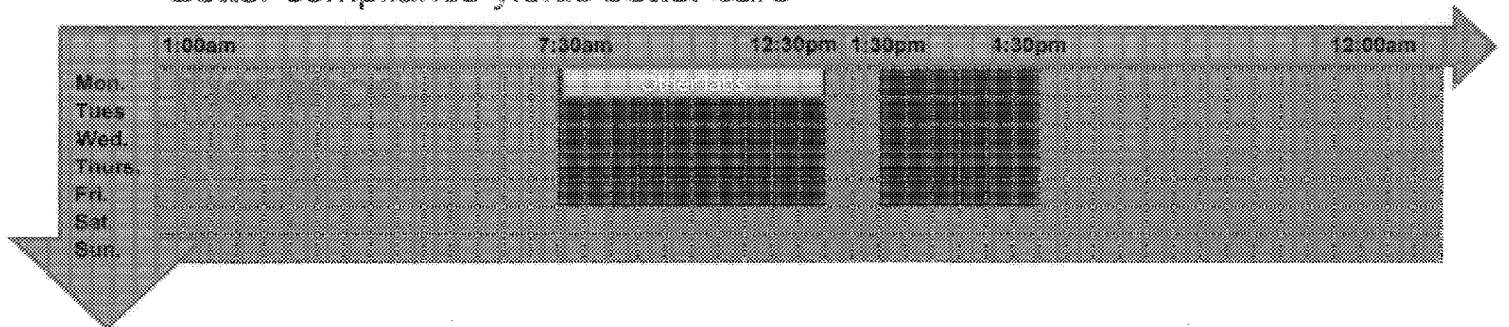
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Convenient Results 24x7

Theranos Wellness Centers are open 24 hours per day, 7 days per week

- 3x more operating hours per week than any national lab provider
- Painless patient experience any time of day
- Significant economic impact in reduction of physician office visits
- Better compliance yields better care

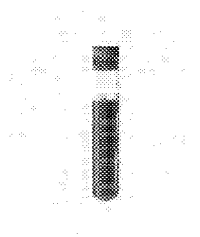


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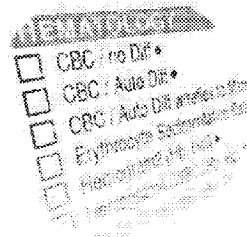
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Seamless Integration with Physician Practices



Send samples to us.

You can send us samples using your smallest collection containers. Just sign up and we'll help you register and arrange courier/delivery options. [Get started here.](#)



Send patients to us.

Or download our full order form and send your patients to our convenient Theranos Wellness Centers. Sign up today and we'll get you set up. [Visit our website.](#)

Physicians can choose between sending patients to our convenient Theranos Wellness Centers, or drawing samples in their office or facility.

Theranos accepts all paper lab order forms in addition to offering our own form.

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Theranos Hospital Partnership Benefits

- Theranos technology provides the opportunity for hospitals to significantly reduce costs of lab services
- Theranos' platform can be made accessible to employed and affiliated hospital physicians
- Theranos can provide testing services for all send-out tests while reducing the cost of testing services for the hospital
- Collection of small blood samples improves patient experience and reduces hospital labor costs
- Improvements in lab infrastructure create a significant differentiator for hospitals by providing greatly improved patient experience (notably pediatrics, geriatrics and oncology)

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KRM_SEC 00000244

Recent Press



GlobalBiz: Health Technology

FORTUNE

This CEO is Out For Blood



Bloody Amazing



Change Agents: Elizabeth Holmes Wants Your Blood



Theranos CEO on Company's Blood Testing System

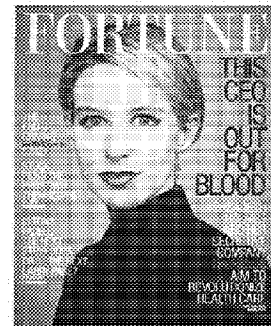
THE ARIZONA REPUBLIC

Health-care Company to Open SkySong Operation

azcentral.com

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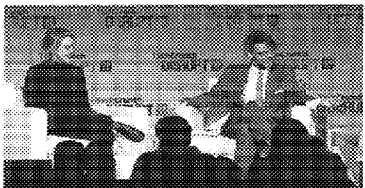
Recent Public Appearances



FORTUNE THE MOST POWERFUL WOMEN
October 9



TEDMED
September 10: "Lab Testing Reinvented"



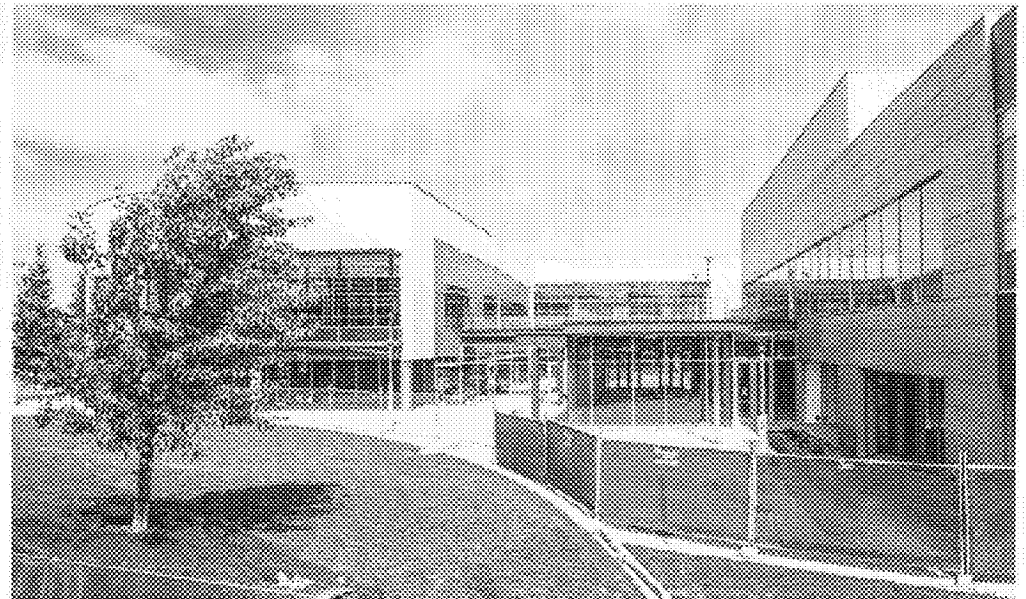
TC TechCrunch Disrupt SF 2014
September 8

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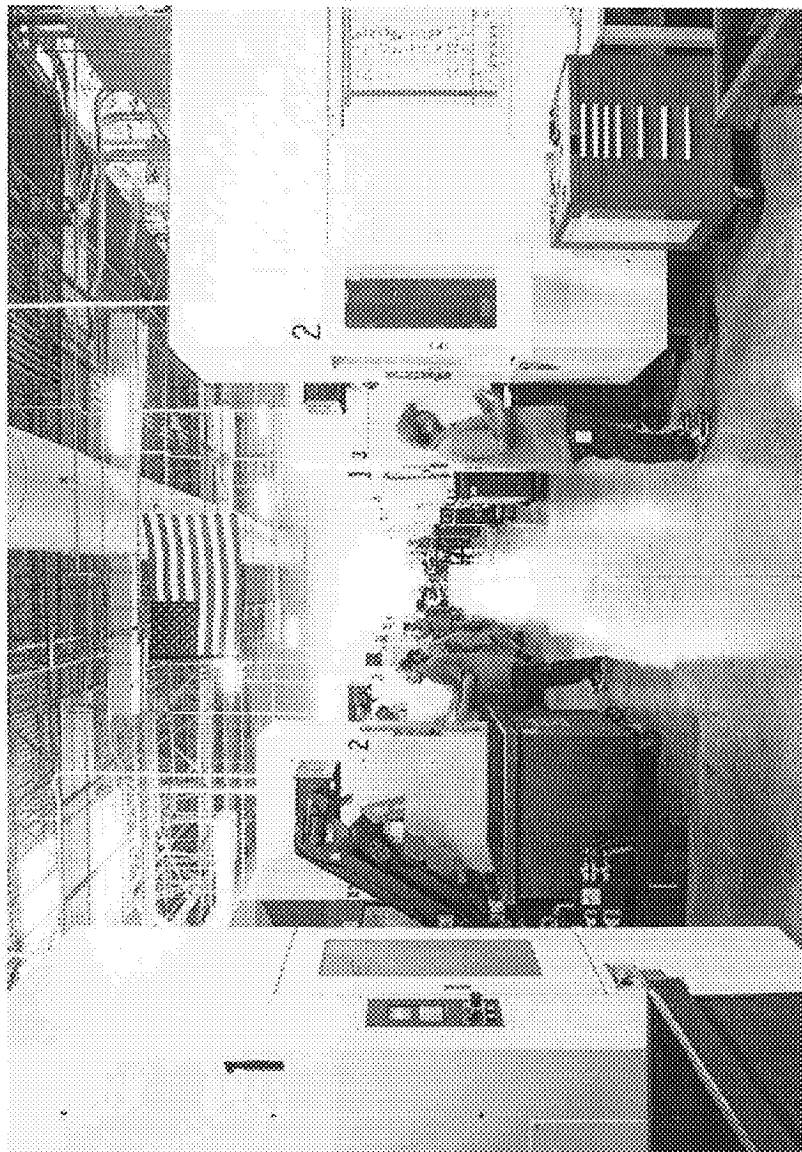
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Theranos Headquarters: Palo Alto, CA



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Theranos Facilities: Newark, CA



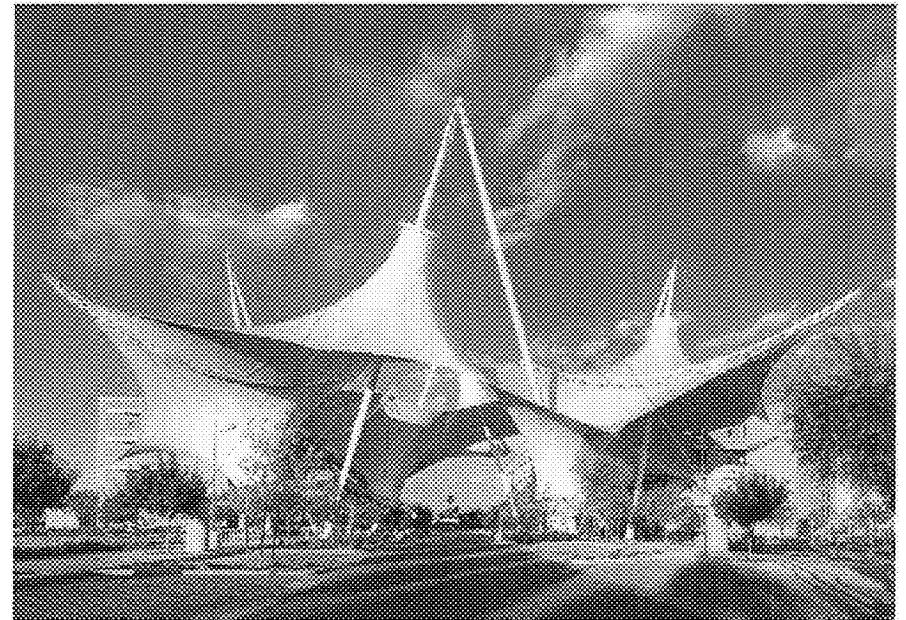
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Theranos Facilities: Arizona



Scottsdale



SkySong

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Recent Feedback

- "I don't have insurance and have to pay cash for everything. No one can ever give me a quote or a fixed price. Theranos and their transparency is so unusual " – Customer at 6128
- "I went to Lab Corp and was stuck 16 times before I came to Theranos. I am incredibly pleased and will never go anywhere else to get blood drawn" – Customer at 5222
- "Theranos is not only just ten minutes away from my house, but their prices are amazing, too" – Customer at 3484
- "I am a diabetic and have to have lab work done every two weeks. Last month, I paid \$500 out-of-pocket at LabCorp. The prices and the finger stick change my life" – Customer at 11810
- "I am normally a very hard venous stick, but I didn't feel a thing with the finger stick. This is amazing" – Customer at 11182
- "I have a high-deductible plan and usually have to pay \$391 for lab work. Todsy, with Theranos, I paid 54" – Customer at 4139
- "Last time I got billed for my tests at another lab it was \$627, at Theranos is was \$104" – Customer at 4139

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Recent Feedback (continued)

- "I am so glad my doctor told me about Theranos. Last time at Sonora Quest I paid over \$900" – Customer at 3049
- "I am not a big fan of Quest and my physician highly recommended Theranos. This was perfect, especially because I pay out-of-pocket" – Customer at 4045
- "I usually go to Lab Express to have my lab work done. When I go there it costs me \$140, with you, it costs me \$17" – Customer at 3464
- "Not only was the finger stick easier for my daughter (11 years old), but we're uninsured and your prices are great" – Customer at 3464
- "I wish I would have known about your services sooner; I would have saved a ton of money. I get tests done every three months" – Customer at 5453
- "I am very happy Theranos is inside Walgreens; it's convenient. Plus, I get off work at 4 PM and other labs close their doors at 3:45 PM. Theranos has great hours of operation" – Customer at 4139
- "I am very happy Theranos is inside Walgreens; it's convenient. Plus, I get off work at 4 PM and other labs close their doors at 3:45 PM. Theranos has great hours of operation" – Customer at 4139

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Recent Feedback (continued)

- "I usually have to ask for a ride to get my blood work done, but with Theranos, I can conveniently get my lab work done without asking for a ride" – Customer at 4139
- "Our six year old son had a great experience today because of how well the Theranos Phlebotomist handled things" – Customer at 4139
- "This was quick; normally I wait for hours at Quest" – Customer at 4046
- "I'm uninsured and typically pay \$70 more at Fit Health Care Clinic than I paid today at Theranos. Other places must be in a racket. I am coming here from now on" – Customer at 3464
- "I have been putting off my lab work for a year because another lab quotes me \$1,000 for these tests. Today's visit cost less than \$100 for me" – Customer at 3464
- "This was much easier than any other lab experience I have had, all because of the finger stick" – Customer at 5128
- "My physician sent me here because if I did the tests at his lab it would cost me \$300 and the physician was going to have to break the tests up because of the costs. I was able to get all of the tests done at once, since it only costs me \$20 here" - Customer at 5453

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Recent Physician Feedback

"This has literally has brought some of my patients to tears...I see a lot of uninsured patients and they do not get their labs unless I force them...this has changed my patients lives. Our office administrator only wants us to use our in our house lab SQL...but we are rebels here we do what is best for our patients and that is Theranos" – Dr. Stephen Beacak, Family Medicine

"You guys are changing the world and I'm having so much fun talking about it!" – Dr. Joseph Prendergast, Endocrinology

"Well, Theranos is the Walmart of laboratories - you are on every street corner and you are pushing your competitors to do what you do, push pricing down. Most will not want to play with you and are probably running scared. Good for Theranos for finally doing what is right - like Walmart you will be a household name known for thinking of the customer first." – Dr. John Elliott, OBGYN / Maternal Fetal Medicine

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KRM_SEC 00000253

Recent Physician Feedback (continued)

"I went to the lab and just kept checking things off to be tested because it was so inexpensive. I got almost 10-15 labs for under \$100 and the phlebotomist was great. The easiest draw I have had. Everything was really clean and calming, i was almost in a trance with the music, water and tvs. A really cool experience. Did I just say that about labwork? Wow!" – Dr. Michael Fahmy, Anesthesiology / Internal Medicine

"LabCorp came in and dropped their prices to match yours; I asked them why can you suddenly offer prices like this now and not years ago?!?! – Dr. Ashwin Patel, Internal Medicine

"This is truly a patient's life changing service. I see so many patients that are self pay and we cannot properly diagnose them because they can't afford their labs....I am SO excited that Theranos has developed this new technology, convenience, and price points...I can see this being my lab of choice for everyone that needs blood work. Let's try to get more FP and IM on board so that all of our records are similar....let's do this together" – Dr. Nadeem Hussain, Cardiology

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Recent Physician Feedback (continued)

"The experience I had was truly amazing! I had sent a few patients to Theranos before I went for my own labs and now I will be sending all of my patients to Theranos." – Dr. Kirsten Correia, Naturopath

"You guys are perfect. The patients love it - the convenience, the price and less blood! The results have been prompt and accurate. I love it!" – Dr. Petran Beard, DO / Preventative Medicine

"I've been delaying getting lab work done; this is such an easy option I'm excited to try it out myself." – Dr. Bowne, Family Medicine

"Patients tell us all the time how much they love the convenience." – Dr. Lopez Jr, Family Medicine

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KRM_SEC 00000255

EXHIBIT 4

Message

From: Daniel Edlin [/O=THERANOS ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DANIEL EDLIN]
Sent: 8/20/2013 11:21:45 PM
To: Christian Holmes [/O=THERANOS ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=Christian Holmes]; Jeffrey Blickman [/O=THERANOS ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=Jeffrey Blickman]
Subject: RE: DOD

Totally agree. EAH will obviously handle this the right way and kill it, but she is the only person who can see the pathway to doing that

From: Christian Holmes
Sent: Tuesday, August 20, 2013 4:20 PM
To: Jeffrey Blickman; Daniel Edlin
Subject: RE: DOD

Also the only press release this company has ever done has basically proclaimed that we have a close working relationship with DOD

I don't disagree about not talking about it, but it is odd that we offer the information about our relationships and then ask not to talk about it. The Theranos way...

From: Christian Holmes
Sent: Tuesday, August 20, 2013 4:15 PM
To: Jeffrey Blickman; Daniel Edlin
Subject: DOD

Given our board....that's pretty firkin obvious, especially for a policy reporter



EXHIBIT 5

To: Christian Holmes[cholmes@theranos.com]; Elizabeth Holmes[eholmes@theranos.com]
 From: Daniel Edlin
 Sent: Fri 1/31/2014 4:50:59 AM
 Importance: Normal
 Subject: RE: Important for us
 Received: Fri 1/31/2014 4:51:00 AM

Lorie L. Marchant, CSR# 10523, RMR, CRR, CCRR, CRC

EXHIBIT 776

WITNESS: Christian Holmes
 CASE: Partner Investments v. Theranos
 CASE NO.: 12816-VCL
 DATE: Wednesday, April 05, 2017

Hi Elizabeth - please see our comments below. We will follow with a draft email to Wagar.

The most egregious and disruptive behavior was from a woman named Theresa, who LTC Wagar indicated is a comptroller. Her repeated questions were related to the following:

- "I am coming from a business resource perspective - what is your pitch on why we should take your device and replace what we currently have"
- "Sell us on why your device is better than what we have"
- "What is your business plan for replacing devices in field"
- "If your device needs to connect to your servers, why are we having this meeting in the first place?"
- She essentially said: - I'm being billed by the hour and this is a waste of time if we can't have a device that doesn't need to connection to give a result
- LTC Wagar had to tell this woman that the point of this meeting was not to discuss procurement strategy but rather to learn about Theranos. He had to interject 3-4 times before the woman stopped interrupting the meeting.

There was a Navy lab personnel in the meeting room who said the following. I believe his name was George Jordan, but need to confirm

- "Why don't you just have a retired military veteran, who knows what exactly the military is looking for, to be your consultant and pitch us? Why haven't you done your research on what we need right now so that you can pitch us what we need?"
 - o LTC Wagar then had to interrupt and tell them that it was not Theranos job to figure out Army/ Navy objectives, but Army/ Navy's job to find the right technology for their needs.
- He and other attendees trivialized the IT security testing we did with CENTCOM, said that it didn't mean anything since the J6 integration lab wasn't given a username/password to log into the device
- He repeatedly said that in order for anything to move forward, the military would have to be able to open up the device, and his tone was critical/ mocking that we haven't let them do this yet and that they haven't been able to see lab test data yet from the device
 - o He made the following comment: - I'm starting to believe the device is just a box of Palo Alto air
- This person also continually questioned and made critical comments on the Theranos business model, and questioned why our pricing was not published anywhere— even though it is on our website, which we pointed out

Additional

- There were several meeting attendees, including consultants, who joined the call unbeknownst to Theranos or LTC Wagar, who hosted the call. LTC Wagar suggested that the meeting invitation and dial-in number had been forwarded to people outside his Rapid Human Diagnostic Devices Integrated Product team (even though he indicated that this meeting would be with this team)
- Several attendees indicated that the only way that we'd be able to work with the military is if we have FDA approval on our tests, and questioned why we weren't waiting to hold the meeting until that point in time.

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PFM-DEPO-00015338

- o We later were told that FDA approval is often a last step in internal DOD considerations for product deployments.
- Several of the meeting attendees had not been adequately briefed on the purpose of the call, despite our being directed by RADM Doll that the call would be an "informational exchange, no decisions are expected"
- During the call, there was a clear disconnect between those who dialed in and those in the meeting room; the discussion became pretty uncomfortable at one point as DOD personnel were arguing about whether or not a device would need connectivity to be used by the military

Please let us know if you have any questions.

Thanks

From: Christian Holmes
Sent: Thursday, January 30, 2014 5:43 PM
To: Elizabeth Holmes; Daniel Edlin
Subject: RE: Important for us

Dan and I will compile and send back. Also a draft of the note to Wagar explaining that we won't be sending the presentation (for your review). Thanks

From: Elizabeth Holmes
Sent: 1/ 30/ 2014 5:04 PM
To: Christian Holmes; Daniel Edlin
Subject: Important for us

Please email me the most egregious of yeh comments/behaviors in the meeting yesterday for me to have in working this

EXHIBIT 6



Theranos founder and CEO Elizabeth Holmes Photograph by Joe Pugliese for Fortune

By Roger Parloff June 12, 2014

[Author's note: On December 17, 2015, I published a protracted correction to this article [here](#).]

In the fall of 2003, Elizabeth Holmes, a 19-year-old sophomore at Stanford, plopped herself down in the office of her chemical engineering professor, Channing Robertson, and said, “Let’s start a company.”

Robertson, who had seen thousands of undergraduates over his 33-year teaching career, had

known Holmes just more than a year. “I knew she was different,” Robertson told me in an interview. “The novelty of how she would view a complex technical problem—it was unique in my experience.”

Holmes had then just spent the summer working in a lab at the Genome Institute in Singapore, a post she had been able to fill thanks to having learned Mandarin in her spare hours as a Houston teenager. Upon returning to Palo Alto, she showed Robertson a patent application she had just written. As a freshman, Holmes had taken Robertson’s seminar on advanced drug-delivery devices—things like patches, pills, and even a contact-lens-like film that secreted glaucoma medication—but now she had invented one the likes of which Robertson had never conceived. It was a wearable patch that, in addition to administering a drug, would monitor variables in the patient’s blood to see if the therapy was having the desired effect, and adjust the dosage accordingly.

“I remember her saying, ‘And we could put a cellphone chip on it, and it could telemeter out to the doctor or the patient what was going on,’ ” Robertson recounts. “And I kind of kicked myself. I’d consulted in this area for 30 years, but I’d never said, here we make all these gizmos that measure, and all these systems that deliver, but I never brought the two together.”

Still, he balked at seeing her start a company before finishing her degree. “I said, ‘Why do you want to do this?’ And she said, ‘Because systems like this could completely revolutionize how effective health care is delivered. And this is what I want to do. I don’t want to make an incremental change in some technology in my life. I want to create a whole new technology, and one that is aimed at helping humanity at all levels regardless of geography or ethnicity or age or gender.’ ”

That clinched it for him. “When I finally connected with what Elizabeth fundamentally is,” he says, “I realized that I could have just as well been looking into the eyes of a Steve Jobs or a Bill Gates.”



Theranos can run as many as 70 tests on a sample this size, obtained by pricking a finger.
Photograph by Drew Kelly for Fortune

With Robertson's blessing, Holmes started her company and, a semester later, dropped out to pursue it full-time. Now she's 30, and her private, Palo Alto-based corporation, called Theranos—the name is an amalgam of the words “therapy” and “diagnosis”—has 500 employees and has raised more than \$400 million from equity sales to investors who have effectively valued the company at more than \$9 billion. All these numbers, confirmed to me by an outside director, are being published here for the first time. Though Theranos is largely unknown even in Silicon Valley, that is about to change.

“This is about being able to do good,” Holmes says to me about her company. “And it's about being able to change the health care system through what we believe this country does so well, which is innovation and creativity and the ability to conceive of technology that can help solve policy challenges.”

At first glance it's hard to see the connection between the patch that wowed Robertson and what Theranos does now. But as we will see, to Holmes they are simply different “embodiments” of the same core insights.

Theranos today is a potentially highly disruptive upstart in America's \$73 billion diagnostic-lab industry, which performs nearly 10 billion tests a year and is estimated to provide the basis for about 70% of doctors' medical decisions. Medicare and Medicaid each pay roughly \$10 billion annually on reimbursements for these tests.

Theranos runs what's called a high-complexity laboratory, certified by the federal Centers for Medicare & Medicaid Services (CMS), and it is licensed to operate in nearly every state. It currently offers more than 200—and is ramping up to offer more than 1,000—of the most commonly ordered blood diagnostic tests, all without the need for a syringe.

Theranos's tests can be performed on just a few drops of blood, or about 1/100th to 1/1,000th of the amount that would ordinarily be required—an extraordinary potential boon to frequently tested hospital patients or cancer victims, the elderly, infants, children, the obese, those on anticoagulants, or simply anyone with an aversion to blood draws. Theranos phlebotomists—technicians licensed to take blood—draw it with a finger stick using a patented method that minimizes even the minor discomfort involved with that procedure. (To me, it felt more like a tap than a puncture.)

The Theranos “wellness center” at the Walgreen’s drugstore in downtown Palo Alto. Theranos’s prices for tests are often a half to a quarter of independent lab prices and a quarter to a tenth of hospital lab prices. Photograph by Drew Kelly for Fortune

The company has performed as many as 70 different tests from a single draw of 25 to 50 microliters collected in a tiny vial the size of an electric fuse, which Holmes has dubbed a “nanotainer.” Such a volley of tests with conventional techniques would require numerous tubes of blood, each containing 3,000- to 5,000-microliter samples.

The fact that Theranos’s technology uses such microscopic amounts of blood should eventually allow physicians far greater latitude when ordering so-called reflex tests than they have previously enjoyed. With reflex testing, the physician specifies that if a certain test comes up abnormal, the lab should immediately perform follow-up tests on the same sample to pinpoint the cause of the abnormality. Reflex testing saves patients the time, inconvenience, cost, and pain of return doctor visits and additional blood draws.

The results of Theranos's tests are available within hours—often matching the speed of emergency “stat” labs today, though stat labs, which are highly inefficient, can usually perform only a limited menu of maybe 40 tests.

Most important, Theranos tests cost less. Its prices are often a half to a quarter of what independent labs charge, and a quarter to a 10th of what hospital labs bill, with still greater savings for expensive procedures. Such pricing represents a potential godsend for the uninsured, the insured with high deductibles, insurers, and taxpayers. The company's prices are set to never exceed half the Medicare reimbursement rate for each procedure, a fact that, with widespread adoption, could save the nation billions. The company also posts its prices online, a seemingly obvious service to consumers, but one that is revolutionary in the notoriously opaque, arbitrary, and disingenuous world of contemporary health care pricing.

Precisely how Theranos accomplishes all these amazing feats is a trade secret. Holmes will only say—and this is more than she has ever said before—that her company uses “the same fundamental chemical methods” as existing labs do. Its advances relate to “optimizing the chemistry” and “leveraging software” to permit those conventional methods to work with tiny sample volumes.

Laboratory scientists perform biochemical experiments in a Theranos R&D lab in Palo Alto.
Photograph by Drew Kelly for Fortune

The scale of Theranos's operations at the moment is modest. Its phlebotomists currently take physician-ordered blood draws (and saliva, urine, feces, and other samples) at collection centers the company operates at its headquarters in Palo Alto and at 21 Walgreens—one in Palo Alto and the rest in Phoenix. But these are only the advance guard in a gradual national rollout that Walgreens committed to last September; it plans to establish Theranos outposts in a substantial percentage of its 8,200 drugstores in all 50 states. It is the first step in Holmes's audacious plan to place a Theranos center within five miles of almost every American and within one mile of every city dweller. Walgreens CEO Greg Wasson told me in an interview that he hopes to eventually put them in the pharmacies of the company's European partner chain, Alliance Boots, as well.

At least as significant, three hospital groups are now working closely with Theranos with the aim of deploying its lab services—UCSF Medical Center in San Francisco, Dignity Health's 21-state hospital group, and Intermountain Healthcare's 22-hospital system in Utah and Idaho.

"I just think this is so exciting," says Mark Laret, the CEO of UCSF Medical Center, about what he's seen so far. "I mean, here it is. This is the true transformation of health care, right here in front of us."

"The first time I heard about this, I thought it was snake oil and mirrors," says David Helfet, the chief of orthopedic trauma at the Hospital for Special Surgery in Manhattan. But after reviewing voluminous validation studies supplied to him by the company, he has become a believer and is urging his hospital to consider adoption.

“It’s real data,” he says. “It’s not their interpretation.” (Theranos has invited Helfet to join its medical advisory board, he says, but he has not yet decided whether to do so.)

Helfet sees an opportunity to enlist Theranos lab services in the identification of so-called hospital-acquired infections—a major scourge in health care today. Conventional methods of identifying germs and figuring out which antibiotics will combat them—growing bacteria on agar in petri dishes—can require three to five days, during which patients languish in hospital beds, take ineffective antibiotics, and incubate antibiotic-resistant bacteria. Using DNA profiling Theranos can, for less than the cost of the conventional tests, identify a bug and its resistance profile within four hours, says Helfet, according to the data he has seen.

“That would be huge,” he says. “That would change the way we practice medicine.” (Though Theranos did not invent DNA testing of this kind, Holmes says, it has found ways to make it cost-efficient.)

Importantly, it’s not just the blood draws that are tiny. It’s also the analytical systems Theranos uses to perform the tests. They take up a small fraction of the footprint required by a conventional lab today.

Production in Theranos’s 262,000-square-foot manufacturing facility in Newark, Calif.

Photograph by Drew Kelly for Fortune

“It takes at least 10 times—and maybe 100 times—less space for doing the same thing,” says Laret of UCSF Medical Center. That makes it possible to imagine one day placing Holmes’s labs right by the operating rooms in hospitals or in military evacuation helicopters or on ships and submarines or in refugee camps or in tents in the African bush. (The analyzers look like large desktop computer towers. Holmes declines to explain how they work, or even allow them to be photographed, citing the need to protect trade secrets. The company manufactures them at an unmarked facility I toured in a research park across the South Bay from Palo Alto, in Newark, Calif.)

What do incumbent players in the blood-diagnostic space think about all of this? The most frequent criticism is that Theranos is using purportedly breakthrough technology to perform tests that are relied on for life-and-death decisions without having first published any validation studies in peer-review journals. “I don’t know what they’re measuring, how they’re measuring it, and why they think they’re measuring it,” says Richard Bender, an oncologist who is also a medical affairs consultant for Quest Diagnostics, the largest independent diagnostic lab.

Holmes counters that because, as noted, her tests employ “the same fundamental chemical methods” as existing tests, peer-review publication of validation studies is both unnecessary and inappropriate.

The backdrop for this dispute is an unusual regulatory structure that does, in fact, confer upon some—though not all—conventional lab tests an extra layer of validation that Theranos’s do not yet have. Most labs, like Quest and Laboratory Corp. of America, perform many of their routine tests using analyzers they buy from medical-device manufacturers, like Siemens, Olympus, and Beckman Coulter. Before those manufacturers can sell such equipment, they must obtain U.S. Food and Drug Administration approval for the tests those analyzers perform—a process that is in

addition to, and more searching than, the audits and proficiency tests required to win CMS certification for the lab itself.

At the same time, for other procedures conventional labs will devise their own lab-developed tests, or LDTs, which they do not have cleared by the FDA. While the FDA takes the position that it could require approval for LDTs, for many years it has said it would forgo that right in the exercise of its “enforcement discretion.”

Theranos, which does not buy any analyzers from third parties, is therefore in a unique position. While it would need FDA approval to sell its own analyzers to other labs, it doesn't do that. It uses its analyzers only in its own CMS-certified lab. All its tests are therefore LDTs, effectively exempt from FDA oversight.

Holmes sees no basis for criticizing Theranos for acting within this framework, since no other labs seek FDA approval of their own LDTs. “Existing labs use thousands of assays that are neither FDA approved nor peer reviewed,” she says, referring to their LDTs. (In fact, the American Clinical Laboratory Association, the trade group for traditional diagnostic labs, adamantly opposes any effort by the FDA to start requiring approval of LDTs and even takes the position that the FDA lacks legal authority to do so.)

Moreover, Holmes stresses, Theranos is currently seeking FDA clearance for every one of its tests, even though it's under no legal obligation to do so. (She has submitted many hundreds of pages of validation data in this effort, and has shown much of that data to *Fortune*.) Theranos may, in fact, be the only lab to have ever sought FDA clearance for LDTs.

Beyond the validation disputes, skeptics also question Theranos's business model. They doubt its ability to scale up anytime soon to the levels necessary to become a serious competitor, especially since the business has so many unglamorous aspects unrelated to testing—billing, customer service, sorting, regulatory compliance, and the logistics of transporting samples from physicians to labs. Quest, for instance, employs 45,000 people; owns a fleet of 3,000 vehicles and 20 airplanes; and runs eight regional hub labs, 150 satellite labs, and 2,200 patient service centers.

Critics are likewise puzzled by the cosmic vastness of Holmes's end-to-end business model. If Theranos is making breakthrough analyzers, they wonder, why doesn't it just sell them to existing labs? To these critics, for Theranos to compete in the lab business itself while making all its own analyzers sounds implausible, if not crazy—like FedEx trying to manufacture all its own airplanes and trucks.

Still, Holmes has convinced a lot of people that she's onto something. She has assembled what, in terms of public service at least, may be the single most accomplished board in U.S. corporate history. It includes former U.S. Secretary of State, Treasury, and Labor George Shultz; former Secretary of Defense Bill Perry; former Secretary of State and National Security Adviser Henry Kissinger; and former U.S. Senators Sam Nunn and Bill Frist (who is also a heart transplant surgeon), among others.

As a bonus, board meetings are also attended by the company's de facto legal adviser at large, trial lawyer David Boies. At 73, Boies may be the most eminent living trial lawyer, when one tallies up such cases as his civil antitrust prosecution of Microsoft from 1998 to 2000, his role in the historic *Bush v. Gore* matter of 2000, and his fight to legalize same-sex marriage.

Because of his admiration for Holmes and what her company is trying to do, Boies says, he agreed to represent Theranos personally in its first challenge from patent holders claiming infringement—something of a coming-of-age ritual for tech startups. In a rare if not unprecedented rout this past March, the patent holders unconditionally surrendered midtrial, stipulating to the invalidity of their own patent. As a kicker they agreed—though the presiding judge would have been powerless to order such a thing himself—to bring no additional patent suits against Theranos for five years.

Though Holmes faces enormous challenges, she seems to consistently attract the service of extraordinary people and to inspire extraordinary fealty in them.

“She really does want to make a dent in the universe—one that is positive,” says retired U.S. Marine Corps Gen. James Mattis, explaining why he signed up last fall as another of Theranos’s strikingly illustrious outside directors. Mattis had stepped down just months earlier as commander of the U.S. Central Command—the chief of U.S. military operations in the Middle East and Central Asia, including Afghanistan—a post he had taken over from David Petraeus in 2010.

“The strength of the leader’s vision in the military is seen as the critical element in that unit’s performance,” Mattis says. “I wanted to be around something again that had that sort of leadership.”

In a conference room at her 140,000-square-foot, open-floor-plan headquarters at the Stanford Research Park—a former home to Facebook and, before that, to the iconic Palo Alto tech firm Hewlett-Packard—Holmes grips a plastic cup of unappetizing green juice. Her first of the day, it is made from spinach, parsley, wheatgrass, and celery. Later she’ll switch to cucumber. A vegan, she

long ago dropped coffee in favor of these juices, which, she finds, are better able to propel her through her 16-hour days and seven-day weeks.

She admits—laughing nervously at the eccentricity of it—that after a meal she sometimes examines a drop of her own or others' blood on a slide, and says she can observe the difference between when someone has eaten something healthy, like broccoli, and when he's splurged on a cheeseburger. When we dine one night at an Italian place downtown with \$14 pastas, the manager knows what she'll have: a spartan, dressing-less mixed salad and an oil-free spaghetti with tomatoes, prepared from whole-wheat noodles she has provided the restaurant in advance, since it doesn't stock them. No wine.

During my four days at Theranos, Holmes dressed identically every day: black jacket; black mock turtleneck; black slacks with a wide, pale pinstripe; and black low-heel shoes. Steve Jobs, because of his vision and perfectionism about “great products”—words Holmes punches out with precisely Jobs' brio—is obviously a hero to her. As an apparent memento mori, she hangs in her office a framed screenshot of his *Apple* Internet bio, printed out on Aug. 24, 2011, the day he stepped down as CEO because of pancreatic cancer.

From still photos of Holmes herself—young, blond, and blue-eyed—cynics might be excused for thinking, “Oh, I get it. I see why all these geezers are gushing about her company.”

And from small talk with her, one might still wonder what all the fuss was about. She is polite and soft-spoken. She listens. She laughs naturally at other people's jokes and doesn't try to trump them. Her voice is lower pitched than you might expect, but that's about all you notice at first. That, and her youth.

“She looks like 19,” says board member Henry Kissinger, 91.

Asked to assess her as a leader—because he’s seen a few—he responds, “I can’t compare her to anyone else because I haven’t seen anyone with her special attributes. She has iron will, strong determination. But nothing dramatic. There is no performance associated with her. I have seen no sign that financial gain is of any interest to her. She’s like a monk. She isn’t flashy. She wouldn’t walk into a room and take it over. But she would once the subject gets to her field.”

And she does, when she begins explaining to me the “mission.”

“Consumerizing this health care experience is a huge element of our mission,” Holmes says at our first meeting in April, “which is access to actionable information at the time it matters.” In our conversations over the next two months, she comes back to that phrase frequently. It is the theme that unifies what had seemed to me, at first, a succession of diverse, disparate aspects of her vision.

“There’s a lot of ways we’ve focused on access,” she explains, including the use of the minimally invasive finger stick, the affordability, the convenience of a drugstore location. The Walgreens “wellness centers,” as they are called, are open evenings and weekends so that people won’t have to miss work to get their blood test done. Each center is, within its Walgreens, an oasis, playing calming music—vaguely Eastern recorder melodies when I was there—and displaying nature scenes over a high-def LCD monitor (an aquarium video, in my case). The phlebotomist envelops the patient’s finger in a cozy, warming wrap, massages it with a soothing, milking motion, then pulls the trigger on an unusually shallow, narrow-gauge lancet.

“Anywhere from 40% to 60% of people, when they’re given a requisition by a doctor to go get tested, don’t,” asserts Holmes, “because they’re scared of needles or the locations are inconvenient or the cost is too high. And if you’re not even getting tested, how is it possible that we’re going to move toward an era of preventive medicine?”

Preventive medicine—and this relates to the “at the time it matters” portion of her mission statement—is crucial to the mission. She is making diagnostic testing so accessible in all these different ways precisely so that people can eventually do it more often, almost the way they might use a bathroom scale to watch their weight.

Today people might have their blood tested once a year, she explains. They get a snapshot of certain key values and learn whether they are “in range”—that is, statistically normal—or “out of range.” But if they were tested more often, they would begin to see a “movie” of what’s going on inside them. Sudden, rapid changes in some protein concentration—even when technically still in range—could tip off the doctor that something was amiss, and do so before it was too late to address the problem. (Theranos plans soon to display results in a way that maps them against all previous results from tests it has performed for that patient.)

“The movie goal is absolutely core to what we’re working to do,” she says. “When you have that trend, it is a much more meaningful clinical data set for the physician to use.”

She knows that, she says, “because we’ve seen it.” She’s referring to the fact that since 2005 Theranos has been doing work for major pharmaceutical companies, including Pfizer and GlaxoSmithKline, that are conducting clinical drug trials. Early on it was a way for the company, working under confidentiality agreements, to stealthily refine its technology while earning revenue needed to build out infrastructure. Theranos would test drug-trial subjects three times a week—which wouldn’t have been feasible using venipuncture—and catch adverse drug effects quickly, before they became dangerous.

“We’re building an early-detection system,” she explains. “I genuinely don’t believe anything else matters more than when you love someone so much and you have to say goodbye too soon. I deeply believe it has to be a basic human right for everybody to have access to the kind of testing infrastructure that can tell you about these conditions in time for you to do something about it. So that’s what we’re building.”

Holmes was born in February 1984 in Washington, D.C. Her father, Christian Holmes IV, has devoted most of his life to public-minded government service—disaster relief in Africa, international development projects in China, environmental work in this country—and is currently the global water coordinator for the U.S. Agency for International Development. He met Elizabeth’s mother, Noel, on Capitol Hill, where she worked as a congressional committee staffer.

When she was young, Elizabeth read a biography of her great-great-grandfather, the first Christian Holmes, who was a decorated World War I veteran, engineer, inventor, and surgeon after whom a hospital at the University of Cincinnati Medical Center is named. When she was 8, her family took a trip there to see a display about him.

“He ultimately worked himself to death,” Elizabeth tells me—he died at 62—“but he was so passionate in what he did. I wondered, Would I want to be a doctor?”

But she soon discovered she couldn’t handle the sight of blood, even fainting when friends arranged an opportunity for her to watch some surgeries performed. Though her parents remember Elizabeth as a fearless child, the lone exceptions, they say, were getting shots and enduring blood draws.

“The concept of sticking a needle into you and sucking your blood out,” Holmes says, has always been profoundly disturbing to her. As a child, she says, “when I knew I needed to get a test, I would really be focused on that for weeks in advance.” As an adult, she refused to get them. In fact, the last time she endured a venipuncture was in 2007, she says, when her board demanded that she get key-man insurance.

When Elizabeth turned 9, her father took a private sector job with the industrial conglomerate *Tenneco*. He went to Houston to find a house for the family to move into. He remembers feeling guilty about forcing Elizabeth and her younger brother, Christian Holmes V, to uproot themselves from their happy lives in D.C. So he was profoundly touched when he got a letter from Elizabeth reassuring him that “I love adventures,” that she was looking forward to having “new ones in Texas,” especially since Texas was “big on science.” But the most striking thing about his 9-year-old’s “Dear Daddy” letter was its first sentence: “What I really want out of life is to discover something new, something mankind didn’t know was possible to do,” she wrote.

Elizabeth and her brother—who is now director of product management at *Theranos*—had both been intrigued by their father’s work in China. So when Elizabeth was about 9, her parents found them both a tutor to teach them Mandarin on Saturdays. Elizabeth then supplemented those lessons with summer language programs at Stanford and, later, at two universities in Beijing. Captivated by computer programming in high school, she was struck by how the Chinese universities’ information technology facilities lagged behind what she was used to. To rectify that situation, she started her first business while still in high school, selling C++ compilers to Chinese universities.

Whether it grew out of her father's experiences at Tenneco or family lore—they are descendants of a founder of the Fleischmann's Yeast company—Elizabeth grew up admiring private industry. “At a relatively early age I began to believe that building a business was perhaps the greatest opportunity for making an impact,” she says, “because it’s a tool for making a change in the world.”

Holmes was admitted by early decision to Stanford. As she headed off to college, her father gave her a copy of *Meditations*, by the Roman emperor and Stoic philosopher Marcus Aurelius. “I wanted it to reinforce the message of a purposeful life,” her father explained to me. “I think it really affected her.”

Upon admission, Holmes was named one of an elite group of freshmen denominated “president’s scholars,” which meant that Stanford would spot them \$3,000 each to use on a research project. While still a freshman, Holmes persuaded her chemical engineering professor, Robertson, to let her use the stipend for a research project in his lab, though it would mean working mainly alongside Ph.D. candidates.

That summer she departed for Singapore to work in the lab at the Genome Institute, which was developing novel systems to detect the SARS virus in blood or nasal swabs. “I had not had much formal biology training,” Holmes recalls, so she had to bring herself up to speed in that respect on her own. At the same time, her engineering and technology background at Stanford led her to believe that “there were much better ways to do” the tests she saw being performed at the institute.

As soon as she got back to the U.S., Holmes started writing a patent application embodying the ideas set in motion by that experience. “I saw her sit down at the computer, and for five to six days

she barely got up,” recalls her mother, Noel. “I would bring her food occasionally, and she slept maybe one or two hours a night for five nights.”

The day after Elizabeth finished the draft, Noel started driving her from Houston to Stanford, hoping to enjoy some mother-daughter quality time. But Elizabeth just slept for two days in the car.

Noel and Chris knew then that Elizabeth wanted to start a business, though they didn’t understand the details. It therefore came as no shock the following semester when she told them she needed to suspend college to pursue the company full-time. They let her take the money they’d saved for her education and put it into her business.

“What do you want for your children?” says Noel. “You want them to do something they’re passionate about. To follow their dream. To help people. To change the world. So we said, ‘Of course. Go do this.’”

In what respect, then, does Holmes’s first patent application—the wearable patch that would radio the doctor what is going on in your blood in real time—lead to Theranos, a player in the \$73 billion diagnostic lab business?

When one returns to her core mission—making actionable information accessible at the time it matters—one glimpses part of what she means. The patch permitted physicians and patients to see the “movie” of what was going on inside patients’ blood. The original name for her company was Real-Time Cures, though she soon scratched that, after deciding that too many people had a “cynical” reaction to the word “cure.”

“Elizabeth has had a very clear vision of where she wanted to take this since the time I met her,” says Sunny Balwani, who met her in 2002 and has been Theranos’s president since 2009. “The business strategy, the tactics of what to do first, what to offer when—that has changed, but the overall goal and direction has been linear.” Balwani, who founded and sold his own e-commerce company in the 1990s, is an expert in building software products.

For 10 years Holmes patiently raised money and refined her technologies. As much as she needed money, she turned down many offers, she says, because so many investors wanted quick returns.

“Too often the question is, What’s your exit strategy?” she recounts, “before you’re really understanding what your entry strategy is.” She is building a company, she explains, that “30, 40, even 50 years from now will be defining new standards in terms of the way in which people will be able to get access to actionable information.”

Early investors included venture capitalists Draper Fisher Jurvetson (which has funded Tesla and SpaceX), ATA Ventures, Silicon Valley legend Don Lucas Sr. (Oracle, National Semiconductor, Macromedia), and Oracle’s Larry Ellison. She will not identify later investors other than to say they include private equity funds and “strategic partners,” by which she means “entities working with the company as we scale.” Though she has now raised more than \$400 million, she says she has retained control over more than 50% of the stock.

All the while, Holmes has continued to invent and to upgrade her earlier inventions. “As she likes to put it,” says board member Shultz, “the best patent is making yourself obsolete. So the person who steals your patent steals yesterday’s technology.”

Today Holmes is a co-inventor on 82 U.S. and 189 foreign patent applications, of which 18 in the U.S. and 66 abroad have been granted. Those are in addition to another 186 applications Theranos has filed worldwide that don't list Holmes as an inventor, of which 18 have already been granted.

Although I believe Balwani when he says that Holmes's "overall goal and direction" for the company "has been linear," I don't believe that Walgreens wellness centers represent the ultimate target of that vector. There are pieces of the puzzle we haven't seen yet. In some cases she may be waiting for regulatory approval, while in others she may just be waiting, like Steve Jobs, to finish perfecting her next "great product" before unveiling it with a flourish.

As Holmes relentlessly pursues the next "embodiment" of her vision, her old chemical engineering professor, Robertson, sits about 20 yards from her office, helping her. After years of volunteer service to the company as a director, he became a paid consultant in 2009. Last June he signed up as an employee.

"I gave up two endowed chairs to do this," he says. "I think that's a statement."

Then he adds, "To me, I wish I wasn't 70 years old. I wish I was her age and could be in on this. Because this is going to be a long, exciting, fascinating, exhilarating ride."

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